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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/688,584	10/17/2003	William Hein	PH020/003	2262

7590 06/16/2005
Gene R. Woodle
3516 Woodle Dr.
Rapid City, SD 57702

EXAMINER

LEUNG, PHILIP H

ART UNIT	PAPER NUMBER
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3742

DATE MAILED: 06/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

SP

Office Action Summary	Application No. 10/688,584	Applicant(s) HEIN ET AL.	
	Examiner Philip H. Leung	Art Unit 3742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6, 8 and 9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8 and 9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chauffoureaux (US 4,003,554) (newly cited) and Wear et al (US 4,640,020) (previously cited).

Chauffoureaux shows a microwave heating device including (1) a loading section 5' into which the material may be introduced using loading means; (2) a treatment section 1' which is in communication with the loading section 5'; (3) an unloading section (the end portion of waveguide 1' at holes 13') which is in communication with the treatment section; (4) a reciprocating ram 17 within said loading section which is capable of pushing the material from said loading section into said treatment section and through said treatment section into said unloading section; (5) a microwave guide connecting a microwave generator 2' into the material within said treatment section 1', and (6) unloading means (after the outlet of die 16) the die capable of removing the material from said unloading section; whereby material may be loaded into said loading section and pushed into said treatment section; the material treated by microwaves within said treatment section and the material removed from said unloading section by unloading means" (see Figure 2 and col. 2, lines 55-64 and col. 5, lines 10-65). To use the microwave heating device for drying" would be matter of engineering variation depending on

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what type of material being heat-treated by the microwave. Therefore, Chauffoureaux shows every feature and structure as claimed except for the use of a plurality of waveguides for directing microwaves from the microwave generator into the treatment section. Wear shows that it is well known in the art of conveyorized microwave dryer to use a plurality of microwave feed ports for directing microwave into the microwave treatment section to control the drying process. The feed ports routinely include a plurality of wave guides 116, 126, 132 connected to generators, 114, 124, 130 to radiating ports 118, 128, 134 for distributing microwave around the treatment section (see Figure 1 and col. 8, lines 24-54 and col. 9, line 39 – col. 10, line 34). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Chauffoureaux to use a plurality of microwave guides each connected to a microwave generator for distributing microwave along the treatment section for better heating control, in view of the teaching of Wear. In regard to claim 2, the limitation “outside air is introduced from the microwave dryer” is only a statement of intended function without any positive structure in the claimed dryer. Anyway, Wear also teaches the use of a purge gas passing over the product to carry away the vapor (see the abstract, last 5 lines and col. 11, line 34 – col. 12, line 18).

3. Claims 3-6, 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chauffoureaux (US 4,003,554) and Wear et al (US 4,640,020), as applied to claims 1 and 2 above, and further in view of Gerling et al (US 4,326,114) (previously cited).

As set forth above, Chauffoureaux combined with Wear shows every feature as claimed except for “the treatment section may be tilted” in claims 3, 6, 8 and 9 and the sections are

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modular claimed in claims 4 and 9. Again, the limitation “may be tilted” is only a statement of intended function without any positive structure in the claimed dryer. However, Gerling shows a microwave roasting device for heating, drying and/or roasting materials (see col. 6, lines 44-47 and col. 10, lines 2-4) including (1) a loading section 52 into which the material may be introduced using loading means; (2) a treatment section 20 which is in communication with the loading section; (3) an unloading section 60 which is in communication with the treatment section; (4) a hopper 72 with a screw-feed mechanism within said loading section which is capable of pushing the material from said loading section into said treatment section and through said treatment section into said unloading section; (5) a plurality of microwave generator 64-1, 64-2, 64-3, 64-4 into the material within said treatment section, and (6) unloading means capable of removing the material from said unloading section; whereby material may be loaded into said loading section and pushed into said treatment section; the material treated by microwaves within said treatment section and the material removed from said unloading section by unloading means” (see Figures 1 and 2 and col. 5, line 24 – col. 7, line 43). Furthermore, Gerling shows the use of a tilted tube to increase or decrease the flow rate of material through said treatment section as claimed. To tilt only the tube 90 which may be considered as the treatment zone by itself or the entire treatment zone 20 would have been a matter of engineering expediency as long as the claimed intended function “to increase or decrease the flow rate of material through said treatment section” is met. In regard to claims 4 and 9, Gerling also shows the use of a modular construction to permit scale up or scale down such that the length of the microwave dryer may be adjusted to suit production requirement (see col. 8, lines 47-51). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Chauffoureaux

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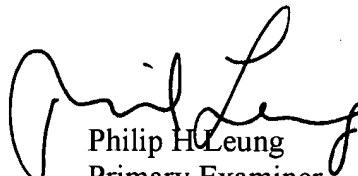
combined with Wear to tilt the treatment zone to control the feed speed and to use a modular construction to permit easy adjustment of the heating device, in view of the teaching of Gerling.

4. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip H Leung whose telephone number is (571) 272-4782. The examiner can normally be reached on flexible.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on (571) 272-4777. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Philip H Leung
Primary Examiner
Art Unit 3742

P.Leung/pl
6-12-2005